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REMARKS

In the Office Action, it is noted that claims 1-44 are pending and also stand rejected. By this amendment claims 17, 19-20, 23-24, 26-35, 37-38, and 43 are amended, and claims 18, 21-22, 25, 36, 39-42 and 44 continue unamended. In view of both the amendments presented above and the following discussion, the Applicant submits that none of the claims now pending in the application is anticipated under the provisions of 35 U.S.C. §102 or rendered obvious under the provisions of 35 U.S.C. §103. Thus, the Applicant believes that all of these claims are now in allowable form.

It is to be understood that the applicant, by amending the claims, does not acquiesce to the Examiner's characterizations of the art of record or to applicant's subject matter recited in the pending claims. Further, applicant is not acquiescing to the Examiner's statements as to the applicability of the prior art of record to the pending claims by filing the Instant responsive amendments.

In The Specification

The applicant has amended the specification to update a patent application incorporated by reference therein to its corresponding issued patent number and issue date. Applicant respectfully submits that no new subject matter has been added.

REJECTIONS**Rejection of Claims Under 35 U.S.C. §102**

Claims 17 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Gordon et al. (U.S. Patent No. 6,253,375, issued June 26, 2001, hereinafter "Gordon"). The applicant respectfully traverses the rejection.

The applicant has amended claims 17 and 30 to include additional limitations that the applicant considers to be inventive. In particular, claim 17, as amended, recites:

"In a video-on-demand (VOD) distribution system comprising provider equipment and subscriber equipment, said provider equipment providing VOD content to said subscriber equipment via

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a forward channel, said subscriber equipment requesting said VOD content via a back channel, a method comprising the steps of:
determining whether said VOD distribution system has sufficient bandwidth available to provide VOD content requested by a subscriber;

providing, in the event of appropriate bandwidth availability, said requested VOD content to said subscriber using said appropriate bandwidth; and

providing, in the event of minimum bandwidth availability, said requested VOD content to said subscriber using said minimum bandwidth;

wherein said requested VOD content is stored in said provider equipment at an appropriate bandwidth level and at a minimum bandwidth level." (emphasis added).

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 U.S.P.Q. 481, 485 (Fed. Cir. 1984)(citing Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 U.S.P.Q. 193 (Fed. Cir. 1983)) (emphasis added). The Gordon reference fails to disclose each and every element of the claimed invention, as arranged in the claim.

The Gordon reference discloses

"An interactive information distribution system includes service provider equipment for generating an information stream that is coupled to an information channel and transmitted to subscriber equipment. The service provider also generates a command signal that is coupled to a command channel and transmitted to the subscriber equipment. The service provider also receives information manipulation requests from the subscriber via a back channel. A communication network supporting the information channel, command channel and back channel is coupled between the service provider equipment and the subscriber equipment."
(See Gordon, Abstract).

Nowhere in the Gordon reference is there any teaching of providing in the event of appropriate bandwidth availability, the requested VOD content to the subscriber using the appropriate bandwidth, or providing in the event of minimum bandwidth availability, the requested VOD content to the subscriber using minimum bandwidth. By contrast, the Gordon reference merely discloses that a

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"session control manager (SCM) forms an interface to the set top terminals as well as the DVM modules 202 and 204 and the control interface (e.g., VME bus 112 in FIG. 1) 224. The SCM's responsibilities include set top terminal sign-on and time out, authentication, configuration, and control protocol termination; alarm management and frequency assignment; session security; service selection and control; event notification and usage metering; and a subscriber's access to account information. Commands and requests from the set top terminals are processed by the SCM and appropriate requests are made to the file server to perform certain information navigation and movie-on-demand functions." (See Gordon, column 9, lines 14-26). That is, nowhere in the Gordon reference is there any disclosure or teaching that the SCM's responsibilities include determining whether the VOD distribution system has sufficient bandwidth available to provide the requested VOD content to the subscribers, or allocating such VOD content to the subscribers using either the appropriate bandwidth or the minimum bandwidth, as required.

Rather, the Gordon reference is completely silent with regard to allocating VOD content to the subscribers based on bandwidth availability. Therefore, the Gordon reference fails to teach each and every element of the claimed invention as arranged in the claim.

As such, the applicant submits that claim 17 is not anticipated and fully satisfies the requirement of 35 U.S.C. §102 and is patentable thereunder. Furthermore, independent claim 30, as amended, recites similar limitations as recited in independent claim 17. As such, and for at least the same reasons as discussed above, the applicant submits that claim 30 also fully satisfies the requirements of 35 U.S.C. §102 and is patentable thereunder. Therefore, the applicant respectfully requests that the rejection be withdrawn.

Rejection of Claims Under 35 U.S.C. §103(a)

1. Claims 18-24, 26-28, 30-38, 40-42 and 44

The Examiner has rejected claims 18-24, 26-28, 30-38, 40-42 and 44 as being obvious under 35 U.S.C. §103(a) over Gordon in view of Brown (U.S.

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Patent No. 5,822,530, issued October 13, 1998, hereinafter "Brown"). The rejection is respectfully traversed.

As Gordon was filed December 3, 1997 and issued June 26, 2001 after Applicants' September 28, 1999 filing date, Gordon is a 102(e) type reference. Gordon is commonly assigned to DIVA Corporation and Applicants' invention is likewise assigned to DIVA Corporation. Applicants' invention and Gordon were, at the time Applicants' invention was made, owned by or subject to an obligation of assignment to, DIVA Corporation. Since the applicants have filed a Continued Prosecution Application under 37 C.F.R. 1.53(d) along with this response after November 29, 1999, Gordon does not preclude patentability under the provisions of 35 U.S.C. § 103(c), as amended by the American Inventors Protection Act of 1999. See MPEP 706.02(I)(1).

Additionally, Brown alone does not teach or suggest the invention of claims 18-24 and 26-28. Claims 18-24 and 26-28 depend from Independent claim 17 and recite additional limitations thereof. In particular, claim 18, when combined with independent claim 17, recites:

"In a video-on-demand (VOD) distribution system comprising provider equipment and subscriber equipment, said provider equipment providing VOD content to said subscriber equipment via a forward channel, said subscriber equipment requesting said VOD content via a back channel, a method comprising the steps of:
determining whether said VOD distribution system has sufficient bandwidth available to provide VOD content requested by a subscriber;
providing, in the event of appropriate bandwidth availability, said requested VOD content to said subscriber using said appropriate bandwidth; and
providing, in the event of minimum bandwidth availability, said requested VOD content to said subscriber using said minimum bandwidth;
wherein said requested VOD content is stored in said provider equipment at an appropriate bandwidth level and at a minimum bandwidth level;
waiting, in the event of less than minimum bandwidth availability, for a predetermined period of time; and
repeating said first and second steps of providing said requested information."

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The test under 35 U.S.C. §103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy, 110 U.S.P.Q. 1021, 1024 (Fed. Cir. 1984) (emphasis added). Thus, it is impermissible to focus either on the "gist" or "core" of the invention, Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc., 230 U.S.P.Q. 416, 420 (Fed. Cir. 1986) (emphasis added). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 U.S.P.Q. 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added). The Brown reference fails to teach or suggest the applicant's invention as a whole.

In particular, the Brown reference discloses determining if the transmission of a VOD version of a requested application would constrain the shared resources of the interactive communications system. The Brown reference makes this determination by utilizing a mathematical expression to determine the available capacity of the system. (See Brown, column 3, lines 26-39.) The Brown reference fails to disclose providing, in the event of appropriate bandwidth availability, the requested VOD content to the subscriber using the appropriate bandwidth, and providing, in the event of minimum bandwidth availability, the requested VOD content to the subscriber using the minimum bandwidth. By contrast, Brown discloses that the requested VOD version of the content is provided to the subscriber if the transmission of the requested VOD version would not constrain resources of the system. On the other hand, if the system's resources would be constrained by the submission of the requested VOD version, then one embodiment of the invention (1) denies the request for this presentation, and (2) directs the requesting viewer to view a near video-on-demand (NVOD) version of the particular application. (See Brown, column 3, line 63 to column 4, line 4.)

In other words, the applicant's invention provides video-on-demand content to the subscribers in the event of appropriate bandwidth availability, as well as in the event of minimum bandwidth availability. By contrast, the Brown

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reference provides VOD content to the subscriber only in the case where appropriate bandwidth is available. In instances where minimum bandwidth availability is limited, the Brown reference teaches away from the applicant's invention, since the system of Brown merely provides a near video-on-demand version of a particular application. This is completely different from the applicant's invention, since the applicant's invention is able to provide video-on-demand content in instances where there is also minimum bandwidth availability.

More specifically, the applicant's invention is an improvement over the prior art references and further solves the problem of having to utilize several time shifted versions of the interactive video content to provide near video-on-demand programming. As discussed in the Brown reference, prior art interactive entertainment systems provide their viewers with near video-on-demand (NVOD) presentations of interactive applications in order to offer features that crudely approximate VCR functional features. Utilizing such NVOD programming is not bandwidth efficient, nor does it provide the type of services that the subscribers are accustomed to when utilizing video-on-demand services. (See Brown, column 1, line 53 through column 2, line 44.) The applicant's invention, as a whole, is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, Id. In this instance, the applicant's invention solves the problem of providing VOD content to subscribers even in instances where there is minimum bandwidth availability, as opposed to the teachings of the Brown reference, which merely disclose providing NVOD type programming when there is minimum bandwidth availability. Therefore, the combination of Gordon and Brown fail to teach or suggest the applicant's invention as a whole.

As such, the applicant submits that claim 18 is not obvious and fully satisfies the requirements of 35 U.S.C. §103 and is patentable thereunder. Likewise, claims 19-24 and 26-28 also depend from independent claim 17 and recite additional limitations thereof. As such and at least for the same reasons as discussed above, the applicant submits that these claims are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder.

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Furthermore, claims 31-38, 40-42 and 44 depend, either directly or indirectly from independent claim 30, as amended, and recite similar features thereof. As such, and for at least the same reasons as discussed above, the applicant submits that these dependent claims also fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the applicant respectfully requests that the rejection be withdrawn.

2. Claims 25, 29, 39 and 43

The Examiner has rejected claims 25, 29, 39, and 43 as being obvious under 35 U.S.C. §103 as being obvious over Gordon in view of Brown and in further view of Hang (U.S. Patent No. 5,115,309, issued May 19, 1992, hereinafter "Hang"). The applicant respectfully traverses the rejection.

As discussed above, Gordon was filed December 3, 1997 and issued June 26, 2001 after Applicants' September 28, 1999 filing date, Gordon is a 102(e) type reference. Gordon is commonly assigned to DIVA Corporation, and the Applicants' invention is likewise assigned to DIVA Corporation. Applicants' invention and Gordon were, at the time Applicants' invention was made, owned by or subject to an obligation of assignment to, DIVA Corporation. Since the applicants have filed a Continued Prosecution Application under 37 C.F.R. 1.53(d) along with this response after November 29, 1999, Gordon does not preclude patentability under the provisions of 35 U.S.C. § 103(c), as amended by the American Inventors Protection Act of 1999. See MPEP 706.02(l)(1).

Additionally, the combination of Brown and Hang do not teach or suggest the invention of claims 25, 29, 39, and 43. Claims 25 and 29 respectively depend from independent claim 17, as amended, and recite additional limitations thereof. Furthermore, claims 39 and 43 depend from independent claim 30 and recite additional limitations thereof. As discussed above, the Brown reference fails to teach or suggest the applicant's invention as a whole. Specifically, Brown merely discloses an interactive information distribution system that provides VOD content in instances where appropriate bandwidth and provides near video-on-demand in instances where there is minimum bandwidth availability. By contrast,

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the applicant's invention provides video-on-demand content in both instances where there is appropriate bandwidth availability and minimum bandwidth availability. The applicant's invention is an improvement over the combined prior art references, since video-on-demand content is provided in both instances where appropriate and minimum bandwidth availability exist.

Further, the Hang reference fails to bridge the substantial gap as between the Brown reference and the applicant's invention. In particular, the Hang reference merely discloses a dynamic channel allocation unit for specifying a bit rate for each video coder in a set of parallel video coders comprising an overall video coder. The dynamic channel allocation unit computes a set of channel sharing factors, i.e., the percentage of the total channel bandwidth to be allocated to a particular video coder. One channel sharing factor is computed for each individual video coder. Individual members of the set of channel sharing factors may be further refined to reflect the prior history of the channel sharing factor for their corresponding coder. (See Hang, Abstract.)

Nowhere in the Hang reference is there any teaching or suggestion of providing in the event of appropriate bandwidth availability the requested VOD content to the subscriber using the appropriate bandwidth, and providing in the event of minimum bandwidth availability the requested VOD content to the subscriber using the minimum bandwidth. Even if the three references could somehow be combined, and the applicant submits that the three references may not be operably combined, the references would merely disclose an interactive information distribution system having a dynamic channel allocation unit for providing video-on-demand content when there is appropriate bandwidth availability, and providing near video-on-demand content when there is minimum bandwidth availability. As discussed above, the applicant's invention provides video-on-demand content in both instances where there is available bandwidth availability and minimum bandwidth availability. Therefore, the combined references of Brown and Hang also fail to teach the applicant's invention as a whole.

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As such, the applicant submits that claims 25, 29, 39 and 43 are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder. Therefore, the applicant respectfully requests that the rejection be withdrawn.

CONCLUSION

Thus, the Applicant submits that none of the claims, presently in the application, is anticipated under the provisions of 35 U.S.C. §102. Consequently, the Applicant believes that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Steven M. Hertzberg, Esq. at (908) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,



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MARKED-UP PARAGRAPHS IN THE SPECIFICATION

Please replace the paragraph beginning on page 8, line 27 as follows:

At step 206 bandwidth sufficient to enable a navigation function is allocated to the subscriber or customer of step 204. For example, a suitable navigation function is described in U.S. Patent [Application Serial No. 08/984,427]6,208,335 entitled METHOD AND APPARATUS FOR PROVIDING A MENU STRUCTURE FOR AN INTERACTIVE INFORMATION DISTRIBUTION SYSTEM and [filed]issued on [December 3, 1997]March 27, 2001, which is incorporated herein by reference in its entirety. The disclosed navigation function provides an interactive means for a subscriber to browse and select for subsequent viewing video information within a video and demand system. For purposes of this disclosure it is assumed that such a navigation function requires a bandwidth of approximately 3.3 million bits per second (Mbps). Thus, at step 206, 3.3Mbps of bandwidth is reserved for the customer or subscriber of step 204.

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MARKED UP CLAIMS

17. (amended) In [an information]a video-on-demand (VOD) distribution system comprising provider equipment and subscriber equipment, said provider equipment providing [information]VOD content to said subscriber equipment via a forward channel, said subscriber equipment requesting said [Information]VOD content via a back channel, a method comprising the steps of:

determining whether said [information]VOD distribution system has sufficient bandwidth available to provide [Information]VOD content requested by a subscriber;

providing, in the event of appropriate bandwidth availability, said requested [information]VOD content to said subscriber using said appropriate bandwidth; and

providing, in the event of minimum bandwidth availability, said requested [information]VOD content to said subscriber using said minimum bandwidth.

19. (amended) The method of claim 18, further comprising the step of:
repeating, for a predetermined number of iterations, said step of waiting and said first and second steps of providing said requested [information]VOD content.

20. (amended) The method of claim 19, further comprising the step of denying, after said predetermined number of iterations, access to said requested [information]VOD content to said subscriber.

23. (amended) The method of claim 1, wherein said requested [information]VOD content is stored in said provider equipment at an appropriate bandwidth level and at a minimum bandwidth level.

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24. (amended) The method of claim [23]17, wherein said appropriate bandwidth level represents a bandwidth level sufficient to provide said requested information to said subscriber without qualitatively degrading said requested information, and said minimum bandwidth level represents a bandwidth level sufficient to provide said requested information to said subscriber where said requested information is qualitatively degraded.

26. (amended) The method of claim 25, wherein said component loading levels are determined with respect to the type of [information]VOD content requested.

27. (amended) The method of claim 26, wherein said [information]VOD content type comprises one of a video, audio, audiovisual and data type.

28. (amended) The method of claim 27, wherein said [information]VOD content types comprise video formats having differing quality levels.

29. (amended) The method of claim 26, wherein information requests from each of a plurality of requesting subscribers are used to provide [information]VOD content type data for modeling the component loading levels, said subscriber requests for [information]VOD content being aggregated to control bandwidth utilization levels such that information degradation is managed in an orderly fashion.

30. (amended) In an [information]video-on-demand (VOD) distribution system comprising provider equipment and subscriber equipment, said provider equipment providing [information]VOD content to said subscriber equipment via a forward channel, said subscriber equipment requesting said information via a back channel, provider equipment apparatus comprising:

a session manager, for receiving [information]VOD content requests from said subscriber equipment and determining, for each received [information]

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request, whether said [information]VOD distribution system has sufficient bandwidth available to provide the requested [information]VOD content; and an information server, coupled to said session manager, for providing said requested [information]VOD content at an appropriate bandwidth in the case of appropriate bandwidth availability, and for providing said requested [information]VOD content at a minimal bandwidth in the case of at least minimal bandwidth availability.

31. (amended) The apparatus of claim 30, wherein:

said session manager, in response to a determination that less than a minimum bandwidth is available, waiting for a predetermined period of time and determining, for each received [information]VOD content request not being fulfilled, whether said [information]VOD distribution system has sufficient bandwidth available to provide the requested [information]VOD content.

32. (amended) The apparatus of claim 31, wherein:

said session manager, in response to a final determination that less than a minimum bandwidth is available, denying access to said [information]VOD content to said requesting subscriber.

33. (amended) The apparatus of claim 30, further comprising:

a transport processor, for packetizing information provided by said information server;

said session manager determining said [information]VOD distribution system bandwidth with respect to at least a bandwidth utilization level of said transport processor.

34. (amended) The apparatus of claim 30, further comprising:

a plurality of data storage devices, coupled to said information server via a video switch;

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said session manager determining said [information]VOD distribution system bandwidth with respect to at least one a bandwidth utilization level of said video switch and a bandwidth utilization level of a storage devices including said requested information.

35. (amended) The apparatus of claim 30, further comprising:
a digital video modulator, for modulating packetized Information streams onto a carrier;

said session manager determining said [information]VOD distribution system bandwidth with respect to a bandwidth utilization level of said digital video modulator.

37. The apparatus of claim 30, wherein said requested [information]VOD content is stored in said provider equipment at an appropriate bandwidth level and at a minimum bandwidth level.

38. (amended) The apparatus of claim [38]30, wherein said appropriate bandwidth level represents a bandwidth level sufficient to provide said requested [information]VOD content to said subscriber without qualitatively degrading said requested [information]VOD content, and said minimum bandwidth level represents a bandwidth level sufficient to provide said requested [information]VOD content to said subscriber where said requested [information]VOD content is qualitatively degraded.

43. (amended) The apparatus of claim 40, wherein information requests from each of a plurality of requesting subscribers are used to provide [information]VOD content type data for modeling the component loading levels, said subscriber requests for [information]VOD content being aggregated to control bandwidth utilization levels such that information degradation is managed in an orderly fashion.